FIBERS SITE GROUP

January 11, 2016

Via Email Electronic Copy

Adalberto Bosque, PhD, MBA, REM, CEA
Response and Remediation Branch
U.S Environmental Protection Agency
City View Plaza II - Suite 7000
48 RD, 165 Km. 1.2
Guaynabo, PR 00968-8069

Subject: RD/RA Monthly Report – December 2015
Fibers Public Supply Wells Site
Guayama, Puerto Rico

Dear Mr. Bosque:

On behalf of the Fibers Public Supply Wells Site Settling Defendants, we are submitting the attached RD/RA Monthly Report prepared pursuant to the Consent Decree (Civil Action No. 92-2486) in the matter of *United States v. Anaquest Caribe, Inc. et al,* Section IX, Paragraph 30, Reporting Requirements.

Please feel free to contact Mr. James Kirschner of ARCADIS at (602) 797-4519 or me at (724) 544-4874 if you have any questions or comments regarding this submittal.

Sincerely,

Joe Biss, CHMM
Fibers Site Group Project Coordinator
EHS Support LLC

Copies:

Chief, New York/Caribbean Superfund Branch, Attn. Mel Hauptman- via email only
Ms. Evelyn Rivera-Ocasio, Assistant Regional Counsel – Carribean Programs – via email only
Chief, Environmental Enforcement Division, U.S. Department of Justice (DOJ #90-11-2-768)
Amarilis Rodríguez Méndez, State Remedial Project Manager, Puerto Rico Environmental Quality Board- via email only
Ms. Katherine Mishkin, Hydrolgeologist, USEPA Superfund Technical Support Section – via email only
Ms. Enid Diaz, Departmento de Recursos Naturales y Ambientales
Mr. Jorge Morales, PRIDCO - via email only
Mr. Joel Melendez Rodriguez, PRIDCO - via email only
Ms. Ana Palou Balsa, PRIDCO – via email only
Mr. Dan Vineyard, Jackson Walker- via email only
James Kirschner, Arcadis - via email only

RD/RA Monthly Report – December 2015
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

(a) Description of actions which have been taken toward achieving compliance with this Decree.

Fibers Air Stripping System

The Fibers groundwater extraction and treatment system (GWETS) was operational for approximately 86% of the time during December 2015. The GWETS had an automated shut down for 1 day due to a local power failure, and was then started at the Site the next day.

A summary of the daily treatment system operating records is presented in Table 1. The GWETS average flow rates are depicted on Figure 1.

The GWETS operated at an average flow rate of 262 gallons per minute (gpm) and treated approximately 12.00 million gallons of water in December 2015. To date (since May 1999), approximately 2.93 billion gallons of water have been treated at the Fibers Site.

(b) Summary of all sampling results and tests, and all other data received or generated by Settling Defendants.

The Fibers Site Group received groundwater laboratory analytical data from the second semi-annual groundwater monitoring event of 2015. The validated laboratory analytical data will be submitted with the second semi-annual groundwater monitoring and sampling report for 2015.

Groundwater influent and effluent samples were collected and analyzed in December 2015. A summary of the December 2015 GWETS laboratory analytical results are provided in Table 2. A summary of influent groundwater concentrations of tetrachloroethene (PCE) and total haloethers from the GWETS is depicted on Figures 2 and 3, respectively.

Arcadis U.S. Inc. (Arcadis) performed a data quality assessment (validation) of the laboratory analytical results reported by Pace Analytical Services, Inc. Results are summarized in the Data Review Report included as Attachment 1. A copy of the chain of custody and annotated sample analysis data sheets are provided as an attachment to the Data Review Report. A copy of the complete laboratory analytical report is provided as Attachment 2. A copy of the field notes documenting sample collection information, individual flow rates at the three groundwater extraction wells and treatment system parameters is provided as Attachment 3.

(c) List of all work plans, plans and other deliverables completed and submitted.

None for this reporting period.

(d) Description of all actions, including, but not limited to, data collection and implementation of work plans, which are scheduled for the next six weeks.

A Groundwater Extraction and Treatment System Sampling, Analysis and Monitoring Plan is anticipated to be submitted to the United States Environmental Protection Agency (USEPA) in January 2016. An Operations, Maintenance, and Monitoring Manual is anticipated to be submitted to the USEPA in January 2016.

A Notice of Completion Report, with stamped engineering as-built construction drawings, is anticipated to be submitted to the USEPA in February 2016.

On behalf of Baxter, Environmental Resource Technologies (ERTEC) completed the second phase of the subsurface soil investigation at the Baxter-Guayama facility on the Fibers Site in October 2015. Upon completion of the data validation, a summary of results from ERTEC's Phase 2 subsurface investigation will be included in a subsequent monthly report.

(e) Information regarding the percentage completion, unresolved delays encountered or anticipated.

Construction Activities – 100% complete.
System Start-Up – 100% complete.
Start-Up Performance Monitoring – 100% complete.
Long-Term Operation & Maintenance Period – in progress.

(f) List of any modification to work plans or other schedules the Settling Defendants have proposed.

None.

(g) Description of activities undertaken in support of the Community Relations Plan.

No support activities have been requested for the next planning period.

(h) Actions undertaken to address outside parties concerns.

No concerns from outside parties were encountered during this reporting period.

Tables

Table 1
Summary of Daily Treatment System Operating Records - December 2015
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

Recording Date	Influent Flow (gpm) [1]	Effluent Flow (gpm) [2]	RW-2 (gpm) [3]	RW-4 (gpm) [4]	RW-5 (gpm) [5]	pH [6]	Comments
12/01/2015	119	121	47	51	24	8.1	Transfer pump maintenance.
12/02/2015	299	306	114	130	56	8.2	
12/03/2015	296	308	114	134	49	8.2	
12/04/2015	297	306	115	135	47	8.2	
12/05/2015	295	302	115	136	48	8.1	
12/06/2015	297	307	116	135	49	8.1	
12/07/2015	288	302	113	132	50	8.1	
12/08/2015	278	284	110	123	46	8.1	
12/09/2015	316	323	121	151	45	8.1	
12/10/2015	326	333	121	160	45	8.1	
12/11/2015	323	329	116	161	45	8.0	
12/12/2015	323	332	120	161	45	8.0	
12/13/2015	324	334	120	160	45	8.0	
12/14/2015	119	116	42	62	18	8.1	Treatment system maintenance.
12/15/2015	96	97	36	48	14	8.1	Treatment system and transfer pump maintenance.
12/16/2015	326	335	120	160	45	8.2	
12/17/2015	287	293	106	140	40	8.1	System down since 21:00.
12/18/2015	204	210	76	101	29	8.1	Start up system.
12/19/2015	322	336	120	160	45	8.1	
12/20/2015	327	333	120	159	45	8.2	
12/21/2015	325	333	115	160	46	8.2	
12/22/2015	317	326	111	159	46	8.2	
12/23/2015	318	330	110	160	46	8.2	
12/24/2015	316	328	110	161	46	8.1	
12/25/2015	320	333	114	160	46	8.1	
12/26/2015	254	260	91	127	37	8.1	System down since 19:00.
12/27/2015	0	0	0	0	0	8.1	Treatment system down due to power loss.
12/28/2015	91	93	33	38	19	8.1	Treatment system maintenance.
12/29/2015	190	195	68	78	40	8.2	
12/30/2015	198	198	68	91	32	8.2	Treatment system maintenance.
12/31/2015	325	334	120	160	45	8.2	
Monthly Average	262	269	97	126	40	8.1	

Notes:

Flow rates are 24-hour daily average.

gpm = gallons per minute.

[1] = Recorded from instrument FIT-101.

[2] = Recorded from instrument FIT-301.

[3] = Recorded from instrument RW2 FIT.

[4] = Recorded from instrument RW4 FIT.

[5] = Recorded from instrument RW5 FIT.

[6] = Recorded from instrument pHIT-201A.

Table 2
Summary of Treatment System Laboratory Analytical Results
December 2015
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

Fibers Groundwater Extraction and Treatment System

Laboratory analytical results for water samples collected at the influent and effluent sample tap locations from the Fibers Groundwater Extraction and Treatment System on December 7, 2015 are presented below. The system average effluent flow rate at the time the samples were collected was 298 gallons per minute (gpm). Sample results indicate that the treatment system is operating in compliance with operating parameters pursuant to the Consent Decree.

	VOC (µg/L)			
	Sample ID			
Compound	EFF-20151207	EFFDUP-20151207	INF-20151207	TB-20151207
Tetrachloroethene	ND	ND	8.6	ND
Enflurane	ND	ND	2.7	ND
Haloether 229	ND	ND	42.3	ND
Haloether 406	ND	ND	2.0	ND
Haloether 508	ND	ND	86.1	ND
Haloether 528	ND	ND	2.5	ND
Halomar	ND	ND	1.7	ND
Isoflurane	ND	ND	158	ND
Total Haloethers	ND	ND	296	ND
Acetone	ND	ND	ND	ND
Other VOC	ND	ND	ND	ND

Notes:
VOC = volatile organic compounds.
µg/L = micrograms per liter.
EFF = effluent sample.
EFFDUP = effluent duplicate sample.
INF = influent sample.
TB = trip blank.
ND = not detected at or above laboratory reporting limt.

Figures

Figure 1
Fibers Public Supply Wells Superfund Site
Summary of Treatment System Flow Rates

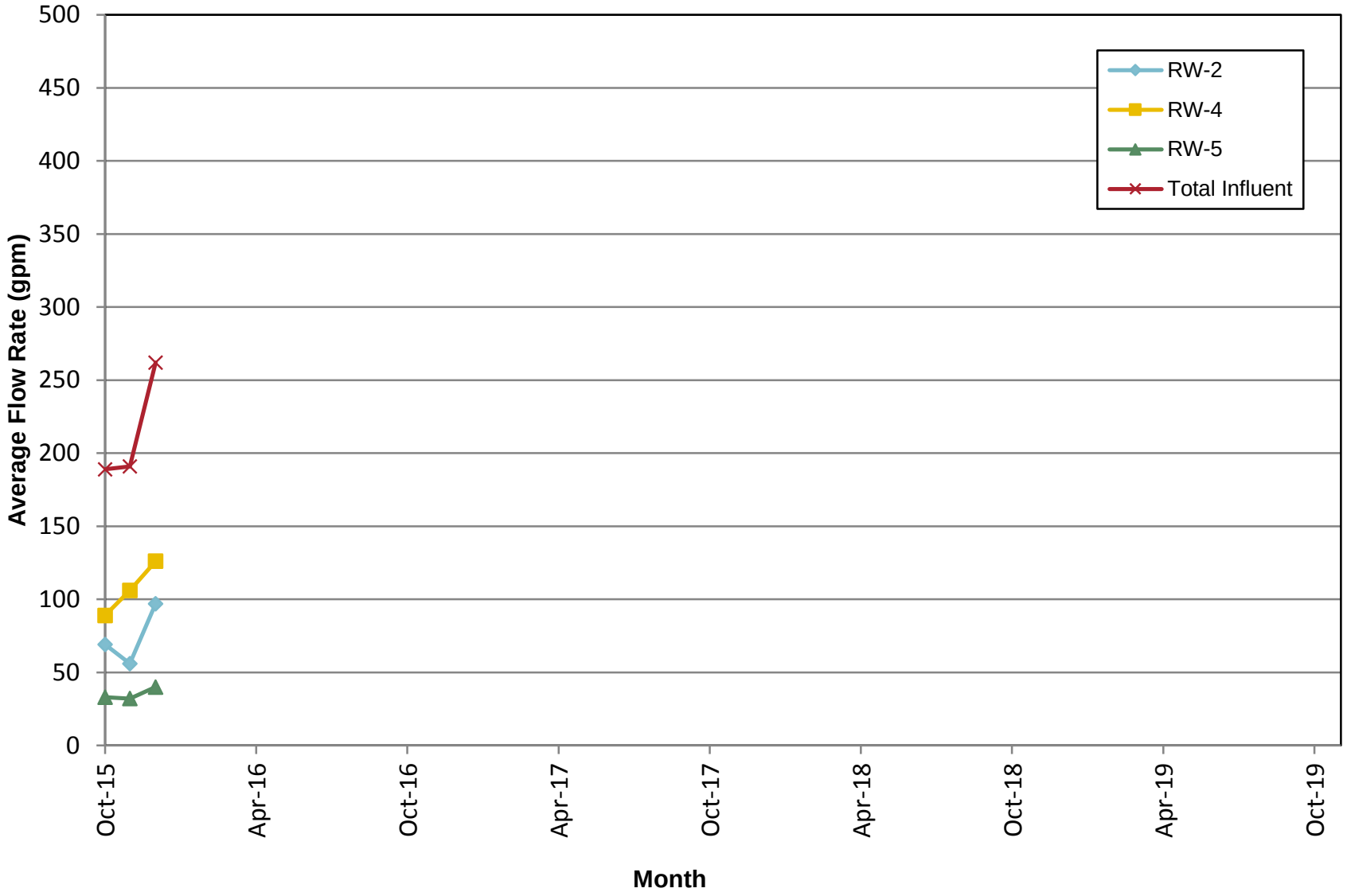


Figure 2
Fibers Public Supply Wells Superfund Site
Treatment System Influent -
Tetrachloroethene (PCE) Concentrations

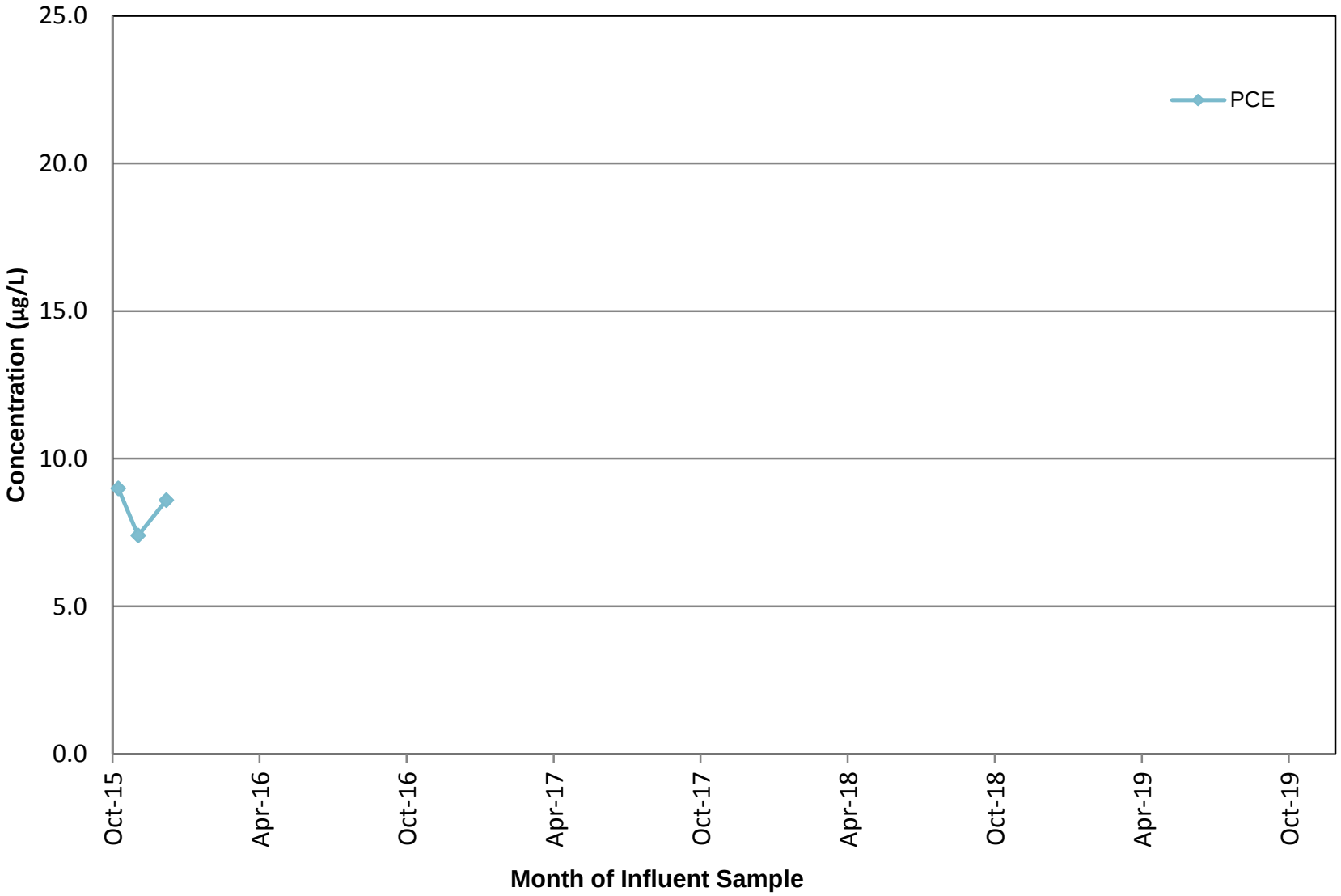
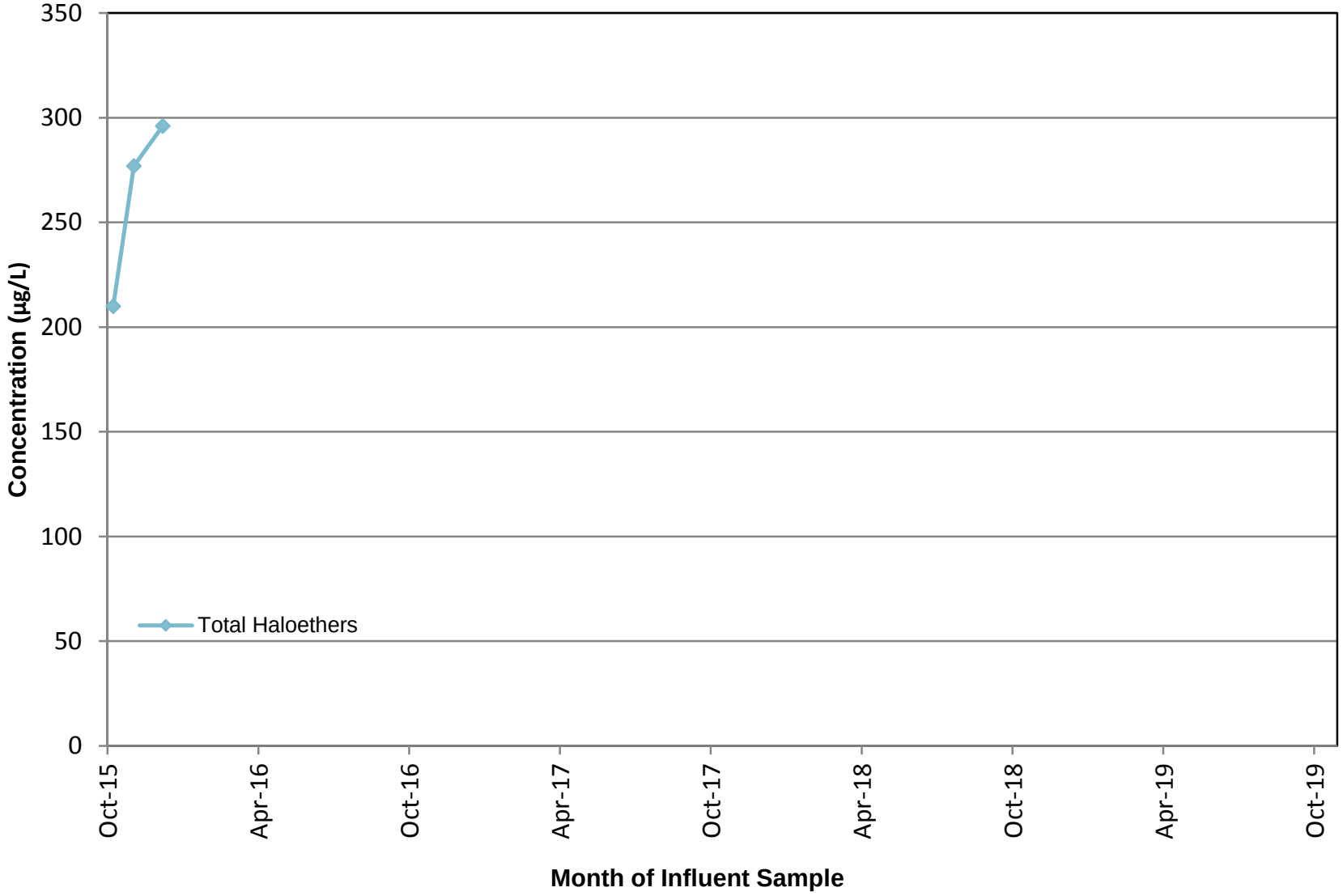


Figure 3
Fibers Public Supply Wells Superfund Site
Treatment System Influent -
Total Haloethers Concentrations



Attachment 1
Data Review Report

ARCADIS
Infrastructure · Water · Environment · Buildings

Imagine the result

Fibers Group

Data Review

GUAYAMA, PUERTO RICO

Volatiles Analyses

SDG #2029587
Analyses Performed By:
Pace Analytical Services, Inc.
New Orleans, Louisiana

Report: #24817R
Review Level: Tier II
Project: CO001911.0002.1507A

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #2029587 for samples collected in association with the Fibers Group Site. The review was conducted as a Tier II evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Included with this assessment are the validation annotated sample result sheets and chain of custody. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis				
					VOC	SVOC	TPH	MET	MISC
TB-20151207	2029587001	Water	12/07/2015		X				
INF-20151207	2029587002	Water	12/07/2015		X				
EFF-20151207	2029587003	Water	12/07/2015		X				
EFFDUP-20151207	2029587004	Water	12/07/2015	EFF-20151207	X				

Note:

1. The matrix spike/matrix spike duplicate (MS/MSD) analysis was performed on sample location EFF-20151207.

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Method 8260. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

  U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

  B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

- Quantitation (Q) Qualifiers

  E The compound was quantitated above the calibration range.

  D Concentration is based on a diluted sample analysis.

- Validation Qualifiers

  J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

  JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.

  UB Compound considered non-detect at the listed value due to associated blank contamination.

  N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

  R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is

that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8260	Water	14 days from collection to analysis	Cool to <6 °C; preserved to a pH of less than 2 s.u.
	Soil	48 hours from collection to extraction and 14 days from extraction to analysis	Cool to <6 °C.

s.u. Standard units

All samples were analyzed within acceptable holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the reporting limit (RL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the RL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

Sample locations associated with the MS/MSD exhibiting recoveries outside of the control limits are presented in the following table.

Sample Locations	Compound	MS Recovery	MSD Recovery
EFF-20151207	Acrolein	<10%	<10%
	o-Xylene		
	Styrene		
	m&p-Xylene	<10%	<LL but >10%
	Vinyl chloride	<LL but >10%	<10%
	Ethylbenzene	<LL but >10%	<LL but >10%
	Toluene		
	cis-1,3-Dichloropropene	AC	<LL but >10%

AC Acceptable

The criteria used to evaluate the MS/MSD recoveries are presented in the following table. In the case of an MS/MSD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Parent sample concentration > four times the MS/MSD spiking solution concentration.	Detect	No Action
	Non-detect	

Sample locations associated with MS/MSD recoveries exhibiting an RPD greater than of the control limit presented in the following table.

Sample Locations	Compound
EFF-20151207	Acrolein
	Toluene
	Vinyl chloride

The criteria used to evaluate the RPD between the MS/MSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

5. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

6. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 50% for water matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
EFF-20151207/ EFFDUP-20151207	All compounds	U	U	AC

AC Acceptable
NC Not compliant

The calculated RPDs between the parent sample and field duplicate were acceptable.

7. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR VOCs

VOCs: SW-846 8260	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment/Field blanks					X
C. Trip blanks		X		X	
Laboratory Control Sample (LCS) Accuracy (%R)		X		X	
Laboratory Control Sample Duplicate (LCSD) %R					X
LCS/LCSD Precision (RPD)					X
Matrix Spike (MS) %R		X	X		
Matrix Spike Duplicate (MSD) %R		X	X		
MS/MSD Precision RPD		X	X		
Field/Laboratory Duplicate Sample RPD		X		X	
Surrogate Spike %R		X		X	
Dilution Factor		X		X	
Moisture Content					X

%R Percent recovery
RPD Relative percent difference
%RSD Relative standard deviation
%D Percent difference

VALIDATION PERFORMED BY: Joseph C. Houser

SIGNATURE: 

DATE: December 16, 2015

PEER REVIEW: Dennis Capria

DATE: December 17, 2015

CHAIN OF CUSTODY/
ANNOTATED SAMPLE ANALYSIS DATA SHEETS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

Sample: TB-20151207 **Lab ID: 2029587001** Collected: 12/07/15 00:00 Received: 12/09/15 07:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		12/11/15 13:39	67-64-1	
Acrolein	ND	ug/L	8.0	1		12/11/15 13:39	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		12/11/15 13:39	107-13-1	
Benzene	ND	ug/L	1.0	1		12/11/15 13:39	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		12/11/15 13:39	75-27-4	
Bromoform	ND	ug/L	1.0	1		12/11/15 13:39	75-25-2	
Bromomethane	ND	ug/L	1.0	1		12/11/15 13:39	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		12/11/15 13:39	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		12/11/15 13:39	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		12/11/15 13:39	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		12/11/15 13:39	108-90-7	
Chloroethane	ND	ug/L	1.0	1		12/11/15 13:39	75-00-3	
Chloroform	ND	ug/L	1.0	1		12/11/15 13:39	67-66-3	
Chloromethane	ND	ug/L	1.0	1		12/11/15 13:39	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		12/11/15 13:39	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		12/11/15 13:39	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		12/11/15 13:39	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		12/11/15 13:39	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		12/11/15 13:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		12/11/15 13:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		12/11/15 13:39	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		12/11/15 13:39	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/11/15 13:39	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/11/15 13:39	10061-02-6	
Enflurane	ND	ug/L	1.0	1		12/11/15 13:39	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		12/11/15 13:39	100-41-4	
Haloether 229	ND	ug/L	1.0	1		12/11/15 13:39		
Haloether 406	ND	ug/L	1.0	1		12/11/15 13:39		
Haloether 421	ND	ug/L	1.0	1		12/11/15 13:39		
Haloether 427	ND	ug/L	1.0	1		12/11/15 13:39		
Haloether 428	ND	ug/L	1.0	1		12/11/15 13:39		
Haloether 508	ND	ug/L	1.0	1		12/11/15 13:39		
Haloether 528	ND	ug/L	1.0	1		12/11/15 13:39		
Halomar	ND	ug/L	1.0	1		12/11/15 13:39		
2-Hexanone	ND	ug/L	2.0	1		12/11/15 13:39	591-78-6	
Isoflurane	ND	ug/L	1.0	1		12/11/15 13:39		
Methoxyflurane	ND	ug/L	1.0	1		12/11/15 13:39	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		12/11/15 13:39	75-09-2	B
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		12/11/15 13:39	108-10-1	
Styrene	ND	ug/L	1.0	1		12/11/15 13:39	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/11/15 13:39	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		12/11/15 13:39	127-18-4	
Toluene	ND	ug/L	1.0	1		12/11/15 13:39	108-88-3	
Total Haloether	ND	ug/L	1.0	1		12/11/15 13:39		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		12/11/15 13:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/11/15 13:39	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		12/11/15 13:39	79-01-6	

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

Sample: TB-20151207 **Lab ID: 2029587001** Collected: 12/07/15 00:00 Received: 12/09/15 07:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		12/11/15 13:39	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		12/11/15 13:39	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		12/11/15 13:39	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		12/11/15 13:39	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		12/11/15 13:39	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		12/11/15 13:39	95-47-6	
Surrogates								
Toluene-d8 (S)	103	%.	79-119	1		12/11/15 13:39	2037-26-5	
4-Bromofluorobenzene (S)	106	%.	68-124	1		12/11/15 13:39	460-00-4	
Dibromofluoromethane (S)	106	%.	72-126	1		12/11/15 13:39	1868-53-7	

Sample: INF-20151207 **Lab ID: 2029587002** Collected: 12/07/15 09:07 Received: 12/09/15 07:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		12/11/15 13:57	67-64-1	
Acrolein	ND	ug/L	8.0	1		12/11/15 13:57	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		12/11/15 13:57	107-13-1	
Benzene	ND	ug/L	1.0	1		12/11/15 13:57	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		12/11/15 13:57	75-27-4	
Bromoform	ND	ug/L	1.0	1		12/11/15 13:57	75-25-2	
Bromomethane	ND	ug/L	1.0	1		12/11/15 13:57	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		12/11/15 13:57	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		12/11/15 13:57	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		12/11/15 13:57	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		12/11/15 13:57	108-90-7	
Chloroethane	ND	ug/L	1.0	1		12/11/15 13:57	75-00-3	
Chloroform	ND	ug/L	1.0	1		12/11/15 13:57	67-66-3	
Chloromethane	ND	ug/L	1.0	1		12/11/15 13:57	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		12/11/15 13:57	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		12/11/15 13:57	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		12/11/15 13:57	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		12/11/15 13:57	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		12/11/15 13:57	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		12/11/15 13:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		12/11/15 13:57	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		12/11/15 13:57	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/11/15 13:57	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/11/15 13:57	10061-02-6	
Enflurane	**2.7**	ug/L	1.0	1		12/11/15 13:57	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		12/11/15 13:57	100-41-4	
Haloether 229	**42.3**	ug/L	1.0	1		12/11/15 13:57		
Haloether 406	**2.0**	ug/L	1.0	1		12/11/15 13:57		
Haloether 421	ND	ug/L	1.0	1		12/11/15 13:57		
Haloether 427	ND	ug/L	1.0	1		12/11/15 13:57		

REPORT OF LABORATORY ANALYSIS

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St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

Sample: INF-20151207 **Lab ID: 2029587002** Collected: 12/07/15 09:07 Received: 12/09/15 07:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Haloether 428	ND	ug/L	1.0	1		12/11/15 13:57		
Haloether 508	**86.1**	ug/L	1.0	1		12/11/15 13:57		
Haloether 528	**2.5**	ug/L	1.0	1		12/11/15 13:57		
Halomar	**1.7**	ug/L	1.0	1		12/11/15 13:57		
2-Hexanone	ND	ug/L	2.0	1		12/11/15 13:57	591-78-6	
Isoflurane	**158**	ug/L	1.0	1		12/11/15 13:57		
Methoxyflurane	ND	ug/L	1.0	1		12/11/15 13:57	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		12/11/15 13:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		12/11/15 13:57	108-10-1	
Styrene	ND	ug/L	1.0	1		12/11/15 13:57	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/11/15 13:57	79-34-5	
Tetrachloroethene	**8.6**	ug/L	1.0	1		12/11/15 13:57	127-18-4	
Toluene	ND	ug/L	1.0	1		12/11/15 13:57	108-88-3	
Total Haloether	**296**	ug/L	1.0	1		12/11/15 13:57		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		12/11/15 13:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/11/15 13:57	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		12/11/15 13:57	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		12/11/15 13:57	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		12/11/15 13:57	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		12/11/15 13:57	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		12/11/15 13:57	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		12/11/15 13:57	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		12/11/15 13:57	95-47-6	
Surrogates								
Toluene-d8 (S)	103	%.	79-119	1		12/11/15 13:57	2037-26-5	
4-Bromofluorobenzene (S)	106	%.	68-124	1		12/11/15 13:57	460-00-4	
Dibromofluoromethane (S)	105	%.	72-126	1		12/11/15 13:57	1868-53-7	

Sample: EFF-20151207 **Lab ID: 2029587003** Collected: 12/07/15 09:22 Received: 12/09/15 07:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		12/11/15 13:22	67-64-1	
Acrolein	~~ND~~	~~ug/L~~	~~8.0~~	~~1~~		~~12/11/15 13:22~~	~~107-02-8~~	~~M1~~ R
Acrylonitrile	ND	ug/L	4.0	1		12/11/15 13:22	107-13-1	
Benzene	ND	ug/L	1.0	1		12/11/15 13:22	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		12/11/15 13:22	75-27-4	
Bromoform	ND	ug/L	1.0	1		12/11/15 13:22	75-25-2	
Bromomethane	ND	ug/L	1.0	1		12/11/15 13:22	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		12/11/15 13:22	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		12/11/15 13:22	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		12/11/15 13:22	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		12/11/15 13:22	108-90-7	
Chloroethane	ND	ug/L	1.0	1		12/11/15 13:22	75-00-3	
Chloroform	ND	ug/L	1.0	1		12/11/15 13:22	67-66-3	

REPORT OF LABORATORY ANALYSIS

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(504)469-0333

ANALYTICAL RESULTS

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

Sample: EFF-20151207 **Lab ID: 2029587003** Collected: 12/07/15 09:22 Received: 12/09/15 07:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Chloromethane	ND	ug/L	1.0	1		12/11/15 13:22	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		12/11/15 13:22	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		12/11/15 13:22	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		12/11/15 13:22	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		12/11/15 13:22	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		12/11/15 13:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		12/11/15 13:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		12/11/15 13:22	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		12/11/15 13:22	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/11/15 13:22	10061-01-5	~~M1~~ UJ
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/11/15 13:22	10061-02-6	
Enflurane	ND	ug/L	1.0	1		12/11/15 13:22	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		12/11/15 13:22	100-41-4	~~M1,R1~~ UJ
Haloether 229	ND	ug/L	1.0	1		12/11/15 13:22		
Haloether 406	ND	ug/L	1.0	1		12/11/15 13:22		
Haloether 421	ND	ug/L	1.0	1		12/11/15 13:22		
Haloether 427	ND	ug/L	1.0	1		12/11/15 13:22		
Haloether 428	ND	ug/L	1.0	1		12/11/15 13:22		
Haloether 508	ND	ug/L	1.0	1		12/11/15 13:22		
Haloether 528	ND	ug/L	1.0	1		12/11/15 13:22		
Halomar	ND	ug/L	1.0	1		12/11/15 13:22		
2-Hexanone	ND	ug/L	2.0	1		12/11/15 13:22	591-78-6	
Isoflurane	ND	ug/L	1.0	1		12/11/15 13:22		
Methoxyflurane	ND	ug/L	1.0	1		12/11/15 13:22	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		12/11/15 13:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		12/11/15 13:22	108-10-1	
Styrene	~~ND~~	~~ug/L~~	~~1.0~~	~~1~~		~~12/11/15 13:22~~	~~100-42-5~~	~~M1~~ R
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/11/15 13:22	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		12/11/15 13:22	127-18-4	
Toluene	ND	ug/L	1.0	1		12/11/15 13:22	108-88-3	~~M1,R1~~ UJ
Total Haloether	ND	ug/L	1.0	1		12/11/15 13:22		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		12/11/15 13:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/11/15 13:22	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		12/11/15 13:22	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		12/11/15 13:22	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		12/11/15 13:22	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		12/11/15 13:22	76-13-1	
Vinyl chloride	~~ND~~	~~ug/L~~	~~1.0~~	~~1~~		~~12/11/15 13:22~~	~~75-01-4~~	~~M1,R1~~ R
m&p-Xylene	~~ND~~	~~ug/L~~	~~2.0~~	~~1~~		~~12/11/15 13:22~~	~~179601-23-1~~	~~M1~~ R
o-Xylene	~~ND~~	~~ug/L~~	~~1.0~~	~~1~~		~~12/11/15 13:22~~	~~95-47-6~~	~~M1~~ R
Surrogates								
Toluene-d8 (S)	100	%.	79-119	1		12/11/15 13:22	2037-26-5	
4-Bromofluorobenzene (S)	104	%.	68-124	1		12/11/15 13:22	460-00-4	
Dibromofluoromethane (S)	106	%.	72-126	1		12/11/15 13:22	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

Sample: EFFDUP-20151207 **Lab ID: 2029587004** Collected: 12/07/15 09:22 Received: 12/09/15 07:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		12/11/15 14:15	67-64-1	
Acrolein	ND	ug/L	8.0	1		12/11/15 14:15	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		12/11/15 14:15	107-13-1	
Benzene	ND	ug/L	1.0	1		12/11/15 14:15	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		12/11/15 14:15	75-27-4	
Bromoform	ND	ug/L	1.0	1		12/11/15 14:15	75-25-2	
Bromomethane	ND	ug/L	1.0	1		12/11/15 14:15	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		12/11/15 14:15	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		12/11/15 14:15	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		12/11/15 14:15	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		12/11/15 14:15	108-90-7	
Chloroethane	ND	ug/L	1.0	1		12/11/15 14:15	75-00-3	
Chloroform	ND	ug/L	1.0	1		12/11/15 14:15	67-66-3	
Chloromethane	ND	ug/L	1.0	1		12/11/15 14:15	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		12/11/15 14:15	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		12/11/15 14:15	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		12/11/15 14:15	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		12/11/15 14:15	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		12/11/15 14:15	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		12/11/15 14:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		12/11/15 14:15	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		12/11/15 14:15	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/11/15 14:15	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/11/15 14:15	10061-02-6	
Enflurane	ND	ug/L	1.0	1		12/11/15 14:15	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		12/11/15 14:15	100-41-4	
Haloether 229	ND	ug/L	1.0	1		12/11/15 14:15		
Haloether 406	ND	ug/L	1.0	1		12/11/15 14:15		
Haloether 421	ND	ug/L	1.0	1		12/11/15 14:15		
Haloether 427	ND	ug/L	1.0	1		12/11/15 14:15		
Haloether 428	ND	ug/L	1.0	1		12/11/15 14:15		
Haloether 508	ND	ug/L	1.0	1		12/11/15 14:15		
Haloether 528	ND	ug/L	1.0	1		12/11/15 14:15		
Halomar	ND	ug/L	1.0	1		12/11/15 14:15		
2-Hexanone	ND	ug/L	2.0	1		12/11/15 14:15	591-78-6	
Isoflurane	ND	ug/L	1.0	1		12/11/15 14:15		
Methoxyflurane	ND	ug/L	1.0	1		12/11/15 14:15	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		12/11/15 14:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		12/11/15 14:15	108-10-1	
Styrene	ND	ug/L	1.0	1		12/11/15 14:15	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/11/15 14:15	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		12/11/15 14:15	127-18-4	
Toluene	ND	ug/L	1.0	1		12/11/15 14:15	108-88-3	
Total Haloether	ND	ug/L	1.0	1		12/11/15 14:15		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		12/11/15 14:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/11/15 14:15	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		12/11/15 14:15	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

Sample: EFFDUP-20151207 **Lab ID: 2029587004** Collected: 12/07/15 09:22 Received: 12/09/15 07:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		12/11/15 14:15	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		12/11/15 14:15	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		12/11/15 14:15	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		12/11/15 14:15	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		12/11/15 14:15	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		12/11/15 14:15	95-47-6	
Surrogates								
Toluene-d8 (S)	100	%.	79-119	1		12/11/15 14:15	2037-26-5	
4-Bromofluorobenzene (S)	106	%.	68-124	1		12/11/15 14:15	460-00-4	
Dibromofluoromethane (S)	108	%.	72-126	1		12/11/15 14:15	1868-53-7	

REPORT OF LABORATORY ANALYSIS

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WO# : 2029587

2029587

1 of 6

Section A Required Client Information:

Company	ARCADIS U.S. INC
Address	410 NORTH 44th St Suite 1000
	PHOENIX AZ 85008
Email To:	david.howard@arcadis.com
Phone	602-792-4518
Fax	
Requested Due Date/TAT:	STANDARD

Section B Required Project Information:

Report To:	DAVID HOWARD
Copy To:	Cassandra McCloud
Purchase Order No.:	C0001911.0002
Project Name:	FIBERS PUBLIC SUPPLY WELLS
Project Number:	C0001911.0002

Section C Invoice Information:

Attention:	ARCADIS
Company Name:	ARCADIS
Address:	
Pace Quote Reference:	
Pace Project Manager:	Justin.Stock@PaceLab
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☑ Other CERCLA

SITE LOCATION ☐GA ☐IL ☐IN ☐MI ☐MN ☐NC ☐OH ☐SC ☐WI ☑OTHER PR

Section D Required Client Information

SAMPLE ID

One Character per box. (A-Z, 0-9 / -) Samples IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Filtered (Y/N)	Requested Analysis: 8260 VOC + Naphthalene	Residual Chlorine (Y/N)	Pace Project Number / Lab I.D
1	TB-20151207	WT	G	—	—	12-07-15	LAB		2				X						X		
2	INF-20151207	WT	G	—	—	12-07-15	0907		3				X						X		
3	EFF-20151207	WT	G	—	—	12-07-15	0922		3				X						X		
4	EFFDUP-20151207	WT	G	—	—	12-07-15	0922		3				X						X		
5	EFFMS-20151207	WT	G	—	—	12-07-15	0922		3				X						X		
6	EFFMSD-20151207	WT	G	—	—	12-07-15	0922		3				X						X		
7																					
8																					
9																					
10																					
11																					
12																					

Additional Comments:

ORIGINAL

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
FERNANDO COLON / ARCADIS	12-07-15	13:23		12-7-15	13:23
	12-9-15	0841		12-9-15	0841

SAMPLE CONDITION

Temp in °C	Received on Ice Y/N	Custody Sealed Cooler Y/N	Samples Intact Y/N
1-3	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: FERNANDO COLON

SIGNATURE of SAMPLER:

DATE Signed (MM / DD / YY): 12-07-15

SEE REVERSE SIDE FOR INSTRUCTIONS

Attachment 2
Laboratory Analytical Report

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

December 15, 2015

David Howard
ARCADIS
410 North 44th St.
Suite 1000
Phoenix, AZ 85008

RE: Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

Dear David Howard:
Enclosed are the analytical results for sample(s) received by the laboratory on December 09, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Justin L. Stock
justin.stock@pacelabs.com
Project Manager

Enclosures

cc: Janisse Diaz, Arcadis
Cassandra McCloud
Marla Miller, ARCADIS U.S.
Monica Rappaport, ARCADIS
Elvin Varela, ARCADIS

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

CERTIFICATIONS

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch: 11277CA
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC): E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP): 02006
Pennsylvania Dept. of Env Protection (NELAC): 68-04202
Texas Commission on Env. Quality (NELAC): T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-00119

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

SAMPLE SUMMARY

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

Lab ID	Sample ID	Matrix	Date Collected	Date Received
2029587001	**TB-20151207**	Water	12/07/15 00:00	12/09/15 07:01
2029587002	**INF-20151207**	Water	12/07/15 09:07	12/09/15 07:01
2029587003	**EFF-20151207**	Water	12/07/15 09:22	12/09/15 07:01
2029587004	**EFFDUP-20151207**	Water	12/07/15 09:22	12/09/15 07:01

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SAMPLE ANALYTE COUNT

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
2029587001	**TB-20151207**	EPA 5030B/8260	MLS	56	PASI-N
2029587002	**INF-20151207**	EPA 5030B/8260	MLS	56	PASI-N
2029587003	**EFF-20151207**	EPA 5030B/8260	MLS	56	PASI-N
2029587004	**EFFDUP-20151207**	EPA 5030B/8260	MLS	56	PASI-N

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PROJECT NARRATIVE

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

Method: **EPA 5030B/8260**
Description: 8260 MSV HALOETHERS
Client: ARCADIS
Date: December 15, 2015

General Information:
4 samples were analyzed for EPA 5030B/8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/4141

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2029587003

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 183195)
  - Acrolein
  - Ethylbenzene
  - Styrene
  - Toluene
  - Vinyl chloride
  - m&p-Xylene
  - o-Xylene
- MSD (Lab ID: 183196)
  - Acrolein
  - Ethylbenzene
  - Styrene
  - Toluene

Pace Analytical Services, Inc.
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PROJECT NARRATIVE

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

Method: **EPA 5030B/8260**
Description: 8260 MSV HALOETHERS
Client: ARCADIS
Date: December 15, 2015

QC Batch: MSV/4141

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2029587003

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- Vinyl chloride
- cis-1,3-Dichloropropene
- m&p-Xylene
- o-Xylene

R1: RPD value was outside control limits.

- MSD (Lab ID: 183196)
  - Ethylbenzene
  - Toluene
  - Vinyl chloride

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, Inc.
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(504)469-0333

ANALYTICAL RESULTS

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

Sample: TB-20151207 **Lab ID: 2029587001** Collected: 12/07/15 00:00 Received: 12/09/15 07:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		12/11/15 13:39	67-64-1	
Acrolein	ND	ug/L	8.0	1		12/11/15 13:39	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		12/11/15 13:39	107-13-1	
Benzene	ND	ug/L	1.0	1		12/11/15 13:39	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		12/11/15 13:39	75-27-4	
Bromoform	ND	ug/L	1.0	1		12/11/15 13:39	75-25-2	
Bromomethane	ND	ug/L	1.0	1		12/11/15 13:39	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		12/11/15 13:39	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		12/11/15 13:39	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		12/11/15 13:39	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		12/11/15 13:39	108-90-7	
Chloroethane	ND	ug/L	1.0	1		12/11/15 13:39	75-00-3	
Chloroform	ND	ug/L	1.0	1		12/11/15 13:39	67-66-3	
Chloromethane	ND	ug/L	1.0	1		12/11/15 13:39	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		12/11/15 13:39	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		12/11/15 13:39	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		12/11/15 13:39	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		12/11/15 13:39	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		12/11/15 13:39	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		12/11/15 13:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		12/11/15 13:39	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		12/11/15 13:39	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/11/15 13:39	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/11/15 13:39	10061-02-6	
Enflurane	ND	ug/L	1.0	1		12/11/15 13:39	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		12/11/15 13:39	100-41-4	
Haloether 229	ND	ug/L	1.0	1		12/11/15 13:39		
Haloether 406	ND	ug/L	1.0	1		12/11/15 13:39		
Haloether 421	ND	ug/L	1.0	1		12/11/15 13:39		
Haloether 427	ND	ug/L	1.0	1		12/11/15 13:39		
Haloether 428	ND	ug/L	1.0	1		12/11/15 13:39		
Haloether 508	ND	ug/L	1.0	1		12/11/15 13:39		
Haloether 528	ND	ug/L	1.0	1		12/11/15 13:39		
Halomar	ND	ug/L	1.0	1		12/11/15 13:39		
2-Hexanone	ND	ug/L	2.0	1		12/11/15 13:39	591-78-6	
Isoflurane	ND	ug/L	1.0	1		12/11/15 13:39		
Methoxyflurane	ND	ug/L	1.0	1		12/11/15 13:39	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		12/11/15 13:39	75-09-2	B
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		12/11/15 13:39	108-10-1	
Styrene	ND	ug/L	1.0	1		12/11/15 13:39	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/11/15 13:39	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		12/11/15 13:39	127-18-4	
Toluene	ND	ug/L	1.0	1		12/11/15 13:39	108-88-3	
Total Haloether	ND	ug/L	1.0	1		12/11/15 13:39		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		12/11/15 13:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/11/15 13:39	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		12/11/15 13:39	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

Sample: TB-20151207 **Lab ID: 2029587001** Collected: 12/07/15 00:00 Received: 12/09/15 07:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		12/11/15 13:39	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		12/11/15 13:39	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		12/11/15 13:39	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		12/11/15 13:39	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		12/11/15 13:39	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		12/11/15 13:39	95-47-6	
Surrogates								
Toluene-d8 (S)	103	%.	79-119	1		12/11/15 13:39	2037-26-5	
4-Bromofluorobenzene (S)	106	%.	68-124	1		12/11/15 13:39	460-00-4	
Dibromofluoromethane (S)	106	%.	72-126	1		12/11/15 13:39	1868-53-7	

Sample: INF-20151207 **Lab ID: 2029587002** Collected: 12/07/15 09:07 Received: 12/09/15 07:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		12/11/15 13:57	67-64-1	
Acrolein	ND	ug/L	8.0	1		12/11/15 13:57	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		12/11/15 13:57	107-13-1	
Benzene	ND	ug/L	1.0	1		12/11/15 13:57	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		12/11/15 13:57	75-27-4	
Bromoform	ND	ug/L	1.0	1		12/11/15 13:57	75-25-2	
Bromomethane	ND	ug/L	1.0	1		12/11/15 13:57	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		12/11/15 13:57	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		12/11/15 13:57	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		12/11/15 13:57	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		12/11/15 13:57	108-90-7	
Chloroethane	ND	ug/L	1.0	1		12/11/15 13:57	75-00-3	
Chloroform	ND	ug/L	1.0	1		12/11/15 13:57	67-66-3	
Chloromethane	ND	ug/L	1.0	1		12/11/15 13:57	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		12/11/15 13:57	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		12/11/15 13:57	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		12/11/15 13:57	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		12/11/15 13:57	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		12/11/15 13:57	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		12/11/15 13:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		12/11/15 13:57	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		12/11/15 13:57	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/11/15 13:57	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/11/15 13:57	10061-02-6	
Enflurane	**2.7**	ug/L	1.0	1		12/11/15 13:57	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		12/11/15 13:57	100-41-4	
Haloether 229	**42.3**	ug/L	1.0	1		12/11/15 13:57		
Haloether 406	**2.0**	ug/L	1.0	1		12/11/15 13:57		
Haloether 421	ND	ug/L	1.0	1		12/11/15 13:57		
Haloether 427	ND	ug/L	1.0	1		12/11/15 13:57		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

Sample: INF-20151207 **Lab ID: 2029587002** Collected: 12/07/15 09:07 Received: 12/09/15 07:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Haloether 428	ND	ug/L	1.0	1		12/11/15 13:57		
Haloether 508	**86.1**	ug/L	1.0	1		12/11/15 13:57		
Haloether 528	**2.5**	ug/L	1.0	1		12/11/15 13:57		
Halomar	**1.7**	ug/L	1.0	1		12/11/15 13:57		
2-Hexanone	ND	ug/L	2.0	1		12/11/15 13:57	591-78-6	
Isoflurane	**158**	ug/L	1.0	1		12/11/15 13:57		
Methoxyflurane	ND	ug/L	1.0	1		12/11/15 13:57	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		12/11/15 13:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		12/11/15 13:57	108-10-1	
Styrene	ND	ug/L	1.0	1		12/11/15 13:57	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/11/15 13:57	79-34-5	
Tetrachloroethene	**8.6**	ug/L	1.0	1		12/11/15 13:57	127-18-4	
Toluene	ND	ug/L	1.0	1		12/11/15 13:57	108-88-3	
Total Haloether	**296**	ug/L	1.0	1		12/11/15 13:57		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		12/11/15 13:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/11/15 13:57	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		12/11/15 13:57	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		12/11/15 13:57	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		12/11/15 13:57	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		12/11/15 13:57	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		12/11/15 13:57	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		12/11/15 13:57	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		12/11/15 13:57	95-47-6	
Surrogates								
Toluene-d8 (S)	103	%.	79-119	1		12/11/15 13:57	2037-26-5	
4-Bromofluorobenzene (S)	106	%.	68-124	1		12/11/15 13:57	460-00-4	
Dibromofluoromethane (S)	105	%.	72-126	1		12/11/15 13:57	1868-53-7	

Sample: EFF-20151207 **Lab ID: 2029587003** Collected: 12/07/15 09:22 Received: 12/09/15 07:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		12/11/15 13:22	67-64-1	
Acrolein	ND	ug/L	8.0	1		12/11/15 13:22	107-02-8	M1
Acrylonitrile	ND	ug/L	4.0	1		12/11/15 13:22	107-13-1	
Benzene	ND	ug/L	1.0	1		12/11/15 13:22	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		12/11/15 13:22	75-27-4	
Bromoform	ND	ug/L	1.0	1		12/11/15 13:22	75-25-2	
Bromomethane	ND	ug/L	1.0	1		12/11/15 13:22	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		12/11/15 13:22	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		12/11/15 13:22	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		12/11/15 13:22	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		12/11/15 13:22	108-90-7	
Chloroethane	ND	ug/L	1.0	1		12/11/15 13:22	75-00-3	
Chloroform	ND	ug/L	1.0	1		12/11/15 13:22	67-66-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

Sample: EFF-20151207 **Lab ID: 2029587003** Collected: 12/07/15 09:22 Received: 12/09/15 07:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Chloromethane	ND	ug/L	1.0	1		12/11/15 13:22	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		12/11/15 13:22	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		12/11/15 13:22	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		12/11/15 13:22	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		12/11/15 13:22	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		12/11/15 13:22	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		12/11/15 13:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		12/11/15 13:22	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		12/11/15 13:22	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/11/15 13:22	10061-01-5	M1
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/11/15 13:22	10061-02-6	
Enflurane	ND	ug/L	1.0	1		12/11/15 13:22	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		12/11/15 13:22	100-41-4	M1,R1
Haloether 229	ND	ug/L	1.0	1		12/11/15 13:22		
Haloether 406	ND	ug/L	1.0	1		12/11/15 13:22		
Haloether 421	ND	ug/L	1.0	1		12/11/15 13:22		
Haloether 427	ND	ug/L	1.0	1		12/11/15 13:22		
Haloether 428	ND	ug/L	1.0	1		12/11/15 13:22		
Haloether 508	ND	ug/L	1.0	1		12/11/15 13:22		
Haloether 528	ND	ug/L	1.0	1		12/11/15 13:22		
Halomar	ND	ug/L	1.0	1		12/11/15 13:22		
2-Hexanone	ND	ug/L	2.0	1		12/11/15 13:22	591-78-6	
Isoflurane	ND	ug/L	1.0	1		12/11/15 13:22		
Methoxyflurane	ND	ug/L	1.0	1		12/11/15 13:22	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		12/11/15 13:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		12/11/15 13:22	108-10-1	
Styrene	ND	ug/L	1.0	1		12/11/15 13:22	100-42-5	M1
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/11/15 13:22	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		12/11/15 13:22	127-18-4	
Toluene	ND	ug/L	1.0	1		12/11/15 13:22	108-88-3	M1,R1
Total Haloether	ND	ug/L	1.0	1		12/11/15 13:22		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		12/11/15 13:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/11/15 13:22	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		12/11/15 13:22	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		12/11/15 13:22	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		12/11/15 13:22	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		12/11/15 13:22	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		12/11/15 13:22	75-01-4	M1,R1
m&p-Xylene	ND	ug/L	2.0	1		12/11/15 13:22	179601-23-1	M1
o-Xylene	ND	ug/L	1.0	1		12/11/15 13:22	95-47-6	M1
Surrogates								
Toluene-d8 (S)	100	%.	79-119	1		12/11/15 13:22	2037-26-5	
4-Bromofluorobenzene (S)	104	%.	68-124	1		12/11/15 13:22	460-00-4	
Dibromofluoromethane (S)	106	%.	72-126	1		12/11/15 13:22	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

Sample: EFFDUP-20151207 **Lab ID: 2029587004** Collected: 12/07/15 09:22 Received: 12/09/15 07:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	4.0	1		12/11/15 14:15	67-64-1	
Acrolein	ND	ug/L	8.0	1		12/11/15 14:15	107-02-8	
Acrylonitrile	ND	ug/L	4.0	1		12/11/15 14:15	107-13-1	
Benzene	ND	ug/L	1.0	1		12/11/15 14:15	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		12/11/15 14:15	75-27-4	
Bromoform	ND	ug/L	1.0	1		12/11/15 14:15	75-25-2	
Bromomethane	ND	ug/L	1.0	1		12/11/15 14:15	74-83-9	
2-Butanone (MEK)	ND	ug/L	2.0	1		12/11/15 14:15	78-93-3	
Carbon disulfide	ND	ug/L	1.0	1		12/11/15 14:15	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		12/11/15 14:15	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		12/11/15 14:15	108-90-7	
Chloroethane	ND	ug/L	1.0	1		12/11/15 14:15	75-00-3	
Chloroform	ND	ug/L	1.0	1		12/11/15 14:15	67-66-3	
Chloromethane	ND	ug/L	1.0	1		12/11/15 14:15	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		12/11/15 14:15	124-48-1	
Dibromomethane	ND	ug/L	1.0	1		12/11/15 14:15	74-95-3	
1,1-Dichloroethane	ND	ug/L	1.0	1		12/11/15 14:15	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		12/11/15 14:15	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	1		12/11/15 14:15	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		12/11/15 14:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		12/11/15 14:15	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		12/11/15 14:15	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/11/15 14:15	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/11/15 14:15	10061-02-6	
Enflurane	ND	ug/L	1.0	1		12/11/15 14:15	13838-16-9	
Ethylbenzene	ND	ug/L	1.0	1		12/11/15 14:15	100-41-4	
Haloether 229	ND	ug/L	1.0	1		12/11/15 14:15		
Haloether 406	ND	ug/L	1.0	1		12/11/15 14:15		
Haloether 421	ND	ug/L	1.0	1		12/11/15 14:15		
Haloether 427	ND	ug/L	1.0	1		12/11/15 14:15		
Haloether 428	ND	ug/L	1.0	1		12/11/15 14:15		
Haloether 508	ND	ug/L	1.0	1		12/11/15 14:15		
Haloether 528	ND	ug/L	1.0	1		12/11/15 14:15		
Halomar	ND	ug/L	1.0	1		12/11/15 14:15		
2-Hexanone	ND	ug/L	2.0	1		12/11/15 14:15	591-78-6	
Isoflurane	ND	ug/L	1.0	1		12/11/15 14:15		
Methoxyflurane	ND	ug/L	1.0	1		12/11/15 14:15	76-38-0	
Methylene Chloride	ND	ug/L	5.0	1		12/11/15 14:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2.0	1		12/11/15 14:15	108-10-1	
Styrene	ND	ug/L	1.0	1		12/11/15 14:15	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/11/15 14:15	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		12/11/15 14:15	127-18-4	
Toluene	ND	ug/L	1.0	1		12/11/15 14:15	108-88-3	
Total Haloether	ND	ug/L	1.0	1		12/11/15 14:15		
1,1,1-Trichloroethane	ND	ug/L	1.0	1		12/11/15 14:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/11/15 14:15	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		12/11/15 14:15	79-01-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

ANALYTICAL RESULTS

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

Sample: EFFDUP-20151207 **Lab ID: 2029587004** Collected: 12/07/15 09:22 Received: 12/09/15 07:01 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV HALOETHERS	Analytical Method: EPA 5030B/8260							
Trichlorofluoromethane	ND	ug/L	1.0	1		12/11/15 14:15	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		12/11/15 14:15	96-18-4	
1,1,2-Trichlorotrifluoroethane	ND	ug/L	1.0	1		12/11/15 14:15	76-13-1	
Vinyl chloride	ND	ug/L	1.0	1		12/11/15 14:15	75-01-4	
m&p-Xylene	ND	ug/L	2.0	1		12/11/15 14:15	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		12/11/15 14:15	95-47-6	
Surrogates								
Toluene-d8 (S)	100	%.	79-119	1		12/11/15 14:15	2037-26-5	
4-Bromofluorobenzene (S)	106	%.	68-124	1		12/11/15 14:15	460-00-4	
Dibromofluoromethane (S)	108	%.	72-126	1		12/11/15 14:15	1868-53-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

QC Batch: MSV/4141 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV
Associated Lab Samples: 2029587001, 2029587002, 2029587003, 2029587004

METHOD BLANK: 183193 Matrix: Water
Associated Lab Samples: 2029587001, 2029587002, 2029587003, 2029587004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	12/11/15 11:49	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	12/11/15 11:49	
1,1,2-Trichloroethane	ug/L	ND	1.0	12/11/15 11:49	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	1.0	12/11/15 11:49	
1,1-Dichloroethane	ug/L	ND	1.0	12/11/15 11:49	
1,1-Dichloroethene	ug/L	ND	1.0	12/11/15 11:49	
1,2,3-Trichloropropane	ug/L	ND	1.0	12/11/15 11:49	
1,2-Dichloroethane	ug/L	ND	1.0	12/11/15 11:49	
1,2-Dichloropropane	ug/L	ND	1.0	12/11/15 11:49	
2-Butanone (MEK)	ug/L	ND	2.0	12/11/15 11:49	
2-Hexanone	ug/L	ND	2.0	12/11/15 11:49	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	2.0	12/11/15 11:49	
Acetone	ug/L	ND	4.0	12/11/15 11:49	
Acrolein	ug/L	ND	8.0	12/11/15 11:49	
Acrylonitrile	ug/L	ND	4.0	12/11/15 11:49	
Benzene	ug/L	ND	1.0	12/11/15 11:49	
Bromodichloromethane	ug/L	ND	1.0	12/11/15 11:49	
Bromoform	ug/L	ND	1.0	12/11/15 11:49	
Bromomethane	ug/L	ND	1.0	12/11/15 11:49	
Carbon disulfide	ug/L	ND	1.0	12/11/15 11:49	
Carbon tetrachloride	ug/L	ND	1.0	12/11/15 11:49	
Chlorobenzene	ug/L	ND	1.0	12/11/15 11:49	
Chloroethane	ug/L	ND	1.0	12/11/15 11:49	
Chloroform	ug/L	ND	1.0	12/11/15 11:49	
Chloromethane	ug/L	ND	1.0	12/11/15 11:49	
cis-1,2-Dichloroethene	ug/L	ND	1.0	12/11/15 11:49	
cis-1,3-Dichloropropene	ug/L	ND	1.0	12/11/15 11:49	
Dibromochloromethane	ug/L	ND	1.0	12/11/15 11:49	
Dibromomethane	ug/L	ND	1.0	12/11/15 11:49	
Enflurane	ug/L	ND	1.0	12/11/15 11:49	
Ethylbenzene	ug/L	ND	1.0	12/11/15 11:49	
Haloether 229	ug/L	ND	1.0	12/11/15 11:49	
Haloether 406	ug/L	ND	1.0	12/11/15 11:49	
Haloether 421	ug/L	ND	1.0	12/11/15 11:49	
Haloether 427	ug/L	ND	1.0	12/11/15 11:49	
Haloether 428	ug/L	ND	1.0	12/11/15 11:49	
Haloether 508	ug/L	ND	1.0	12/11/15 11:49	
Haloether 528	ug/L	ND	1.0	12/11/15 11:49	
Halomar	ug/L	ND	1.0	12/11/15 11:49	
Isoflurane	ug/L	ND	1.0	12/11/15 11:49	
m&p-Xylene	ug/L	ND	2.0	12/11/15 11:49	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

METHOD BLANK: 183193 Matrix: Water
Associated Lab Samples: 2029587001, 2029587002, 2029587003, 2029587004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methoxyflurane	ug/L	ND	1.0	12/11/15 11:49	
Methylene Chloride	ug/L	ND	5.0	12/11/15 11:49	B,Z3
o-Xylene	ug/L	ND	1.0	12/11/15 11:49	
Styrene	ug/L	ND	1.0	12/11/15 11:49	
Tetrachloroethene	ug/L	ND	1.0	12/11/15 11:49	
Toluene	ug/L	ND	1.0	12/11/15 11:49	
Total Haloether	ug/L	ND	1.0	12/11/15 11:49	
trans-1,2-Dichloroethene	ug/L	ND	1.0	12/11/15 11:49	
trans-1,3-Dichloropropene	ug/L	ND	1.0	12/11/15 11:49	
Trichloroethene	ug/L	ND	1.0	12/11/15 11:49	
Trichlorofluoromethane	ug/L	ND	1.0	12/11/15 11:49	
Vinyl chloride	ug/L	ND	1.0	12/11/15 11:49	
4-Bromofluorobenzene (S)	%.	106	68-124	12/11/15 11:49	
Dibromofluoromethane (S)	%.	106	72-126	12/11/15 11:49	
Toluene-d8 (S)	%.	102	79-119	12/11/15 11:49	

LABORATORY CONTROL SAMPLE: 183194

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	48.6	97	62-131	
1,1,2,2-Tetrachloroethane	ug/L	50	44.3	89	15-179	
1,1,2-Trichloroethane	ug/L	50	44.5	89	58-144	
1,1,2-Trichlorotrifluoroethane	ug/L	50	45.2	90	38-121	
1,1-Dichloroethane	ug/L	50	43.3	87	63-129	
1,1-Dichloroethene	ug/L	50	41.5	83	51-139	
1,2,3-Trichloropropane	ug/L	50	47.0	94	13-187	
1,2-Dichloroethane	ug/L	50	39.9	80	57-148	
1,2-Dichloropropane	ug/L	50	40.9	82	66-128	
2-Butanone (MEK)	ug/L	50	49.1	98	32-183	
2-Hexanone	ug/L	50	49.0	98	36-170	
4-Methyl-2-pentanone (MIBK)	ug/L	50	46.7	93	26-171	
Acetone	ug/L	50	48.2	96	22-165	
Acrolein	ug/L	100	83.3	83	10-131	
Acrylonitrile	ug/L	50	41.0	82	18-149	
Benzene	ug/L	50	47.1	94	62-131	
Bromodichloromethane	ug/L	50	40.6	81	69-132	
Bromoform	ug/L	50	45.3	91	35-166	
Bromomethane	ug/L	50	46.4	93	34-158	
Carbon disulfide	ug/L	50	39.3	79	31-128	
Carbon tetrachloride	ug/L	50	48.1	96	54-144	
Chlorobenzene	ug/L	50	48.3	97	70-127	
Chloroethane	ug/L	50	40.1	80	17-195	
Chloroform	ug/L	50	40.8	82	73-134	
Chloromethane	ug/L	50	45.8	92	17-153	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

LABORATORY CONTROL SAMPLE: 183194

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	50	44.9	90	68-129	
cis-1,3-Dichloropropene	ug/L	50	45.1	90	72-138	
Dibromochloromethane	ug/L	50	43.4	87	49-146	
Dibromomethane	ug/L	50	45.2	90	56-145	
Enflurane	ug/L	50	48.9	98	56-135	
Ethylbenzene	ug/L	50	45.0	90	66-126	
Haloether 229	ug/L	50	42.2	84	62-123	
Haloether 406	ug/L	50	51.1	102	62-134	
Haloether 421	ug/L	50	45.2	90	70-128	
Haloether 427	ug/L	50	48.6	97	69-153	
Haloether 428	ug/L	50	49.0	98	70-134	
Haloether 508	ug/L	50	49.0	98	52-139	
Haloether 528	ug/L	50	52.2	104	48-157	
Halomar	ug/L	50	47.4	95	62-128	
Isoflurane	ug/L	50	47.6	95	61-132	
m&p-Xylene	ug/L	100	97.2	97	65-129	
Methoxyflurane	ug/L	50	46.3	93	72-124	
Methylene Chloride	ug/L	50	42.8	86	46-168	
o-Xylene	ug/L	50	49.5	99	65-124	
Styrene	ug/L	50	51.2	102	72-133	
Tetrachloroethene	ug/L	50	49.6	99	46-157	
Toluene	ug/L	50	46.0	92	69-126	
Total Haloether	ug/L		527			
trans-1,2-Dichloroethene	ug/L	50	44.0	88	60-129	
trans-1,3-Dichloropropene	ug/L	50	45.4	91	59-149	
Trichloroethene	ug/L	50	46.3	93	67-132	
Trichlorofluoromethane	ug/L	50	52.7	105	39-171	
Vinyl chloride	ug/L	50	40.7	81	27-149	
4-Bromofluorobenzene (S)	%.			103	68-124	
Dibromofluoromethane (S)	%.			104	72-126	
Toluene-d8 (S)	%.			101	79-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 183195 183196

Parameter	Units	2029587003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	50	50	51.5	50.0	103	100	54-137	3	20	
1,1,2,2-Tetrachloroethane	ug/L	ND	50	50	45.0	45.1	90	90	15-187	0	20	
1,1,2-Trichloroethane	ug/L	ND	50	50	46.0	45.2	92	90	59-148	2	20	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	50	50	48.7	46.6	97	93	40-117	4	20	
1,1-Dichloroethane	ug/L	ND	50	50	43.7	43.2	87	86	59-133	1	20	
1,1-Dichloroethene	ug/L	ND	50	50	36.2	31.5	72	63	44-146	14	20	
1,2,3-Trichloropropane	ug/L	ND	50	50	47.2	46.9	94	94	14-199	1	20	
1,2-Dichloroethane	ug/L	ND	50	50	42.3	41.4	85	83	56-154	2	20	
1,2-Dichloropropane	ug/L	ND	50	50	43.1	42.2	86	84	62-135	2	20	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 183195 183196

Parameter	Units	2029587003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Butanone (MEK)	ug/L	ND	50	50	49.0	48.5	98	97	20-205	1	20	
2-Hexanone	ug/L	ND	50	50	51.1	49.8	102	100	25-189	3	20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	50	50	48.4	47.6	97	95	23-184	2	20	
Acetone	ug/L	ND	50	50	49.5	49.9	93	94	11-217	1	20	
Acrolein	ug/L	ND	100	100	6.1J	ND	6	4	10-142		20	M1
Acrylonitrile	ug/L	ND	50	50	41.0	40.1	82	80	20-164	2	20	
Benzene	ug/L	ND	50	50	50.2	49.2	100	98	52-141	2	20	
Bromodichloromethane	ug/L	ND	50	50	43.0	42.5	86	85	70-134	1	20	
Bromoform	ug/L	ND	50	50	45.9	45.1	91	90	37-171	2	20	
Bromomethane	ug/L	ND	50	50	50.6	48.4	101	97	34-155	4	20	
Carbon disulfide	ug/L	ND	50	50	44.3	42.3	89	85	28-130	5	20	
Carbon tetrachloride	ug/L	ND	50	50	51.2	49.9	102	100	48-146	3	20	
Chlorobenzene	ug/L	ND	50	50	51.0	50.6	102	101	67-129	1	20	
Chloroethane	ug/L	ND	50	50	45.1	42.6	90	85	12-192	6	20	
Chloroform	ug/L	ND	50	50	42.9	41.9	86	84	66-143	2	20	
Chloromethane	ug/L	ND	50	50	56.5	54.7	113	109	14-155	3	20	
cis-1,2-Dichloroethene	ug/L	ND	50	50	47.2	45.9	94	92	56-141	3	20	
cis-1,3-Dichloropropene	ug/L	ND	50	50	36.5	32.4	73	65	70-139	12	20	M1
Dibromochloromethane	ug/L	ND	50	50	46.1	44.8	92	90	50-150	3	20	
Dibromomethane	ug/L	ND	50	50	47.7	47.4	95	95	58-153	0	20	
Enflurane	ug/L	ND	50	50	51.3	50.0	103	100	63-126	3	20	
Ethylbenzene	ug/L	ND	50	50	28.0	21.9	56	44	57-135	24	20	M1,R1
Haloether 229	ug/L	ND	50	50	45.9	44.7	92	89	56-127	3	20	
Haloether 406	ug/L	ND	50	50	46.6	50.4	93	101	68-128	8	20	
Haloether 421	ug/L	ND	50	50	47.3	46.8	95	94	74-120	1	20	
Haloether 427	ug/L	ND	50	50	51.1	50.1	102	100	78-120	2	20	
Haloether 428	ug/L	ND	50	50	51.9	50.7	104	101	74-125	2	20	
Haloether 508	ug/L	ND	50	50	51.1	49.1	102	98	28-156	4	20	
Haloether 528	ug/L	ND	50	50	54.5	52.8	109	106	45-142	3	20	
Halomar	ug/L	ND	50	50	48.8	48.1	98	96	67-123	2	20	
Isoflurane	ug/L	ND	50	50	51.3	50.0	103	100	45-140	3	20	
m&p-Xylene	ug/L	ND	100	100	ND	19.3	1	19	56-136		20	M1
Methoxyflurane	ug/L	ND	50	50	48.5	47.7	97	95	75-119	2	20	
Methylene Chloride	ug/L	ND	50	50	45.1	44.3	89	88	45-166	2	20	
o-Xylene	ug/L	ND	50	50	1.6	ND	3	1	57-133		20	M1
Styrene	ug/L	ND	50	50	ND	ND	0	0	58-144		20	M1
Tetrachloroethene	ug/L	ND	50	50	53.8	51.9	108	104	48-143	3	20	
Toluene	ug/L	ND	50	50	25.5	18.5	51	37	59-136	31	20	M1,R1
Total Haloether	ug/L	ND			548	540				1		
trans-1,2-Dichloroethene	ug/L	ND	50	50	47.1	46.2	94	92	57-132	2	20	
trans-1,3-Dichloropropene	ug/L	ND	50	50	37.6	33.5	75	67	59-154	11	20	
Trichloroethene	ug/L	ND	50	50	50.3	49.6	101	99	58-140	1	20	
Trichlorofluoromethane	ug/L	ND	50	50	58.1	55.0	116	110	24-175	5	20	
Vinyl chloride	ug/L	ND	50	50	5.3	2.2	11	4	21-150	84	20	M1,R1
4-Bromofluorobenzene (S)	%.						100	102	68-124			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 183195 183196

Parameter	Units	2029587003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Dibromofluoromethane (S)	%.						103	103	72-126			
Toluene-d8 (S)	%.						101	100	79-119			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALIFIERS

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The Nelac Institute

LABORATORIES

PASI-N	Pace Analytical Services - New Orleans

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
Z3	Methylene chloride is a common laboratory contaminant. Results for this analyte should be considered estimated unless the amount found in the sample is 3 to 5 times higher than that found in the method blank.

Pace Analytical Services, Inc.
1000 Riverbend Blvd - Suite F
St. Rose, LA 70087
(504)469-0333

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: FIBERS SUPPLY WELLS
Pace Project No.: 2029587

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
2029587001	**TB-20151207**	EPA 5030B/8260	MSV/4141		
2029587002	**INF-20151207**	EPA 5030B/8260	MSV/4141		
2029587003	**EFF-20151207**	EPA 5030B/8260	MSV/4141		
2029587004	**EFFDUP-20151207**	EPA 5030B/8260	MSV/4141		

CHAIN-OF-CUSTODY / Ar

The Chain-of-Custody is a LEGAL DOCUMEN

WO# : 2029587

2029587

Pace Analytical®

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: ARCADIS U.S. INC	Report To: DAVID HOWARD	Attention: ARCADIS
Address: 410 NORTH 44th ST Suite 1000	Copy To: Cassandra McCloud	Company Name: ARCADIS
PHOENIX AZ 85008		Address:
Email To: david.howard@arcadis.com	Purchase Order No.: C0001911.0002	Pace Quote Reference:
Phone: 602-792-4518 Fax:	Project Name: FIBERS PUBLIC SUPPLY WELLS	Pace Project Manager: Justin.Stock@pacelab
Requested Due Date/TAT: STANDARD	Project Number: C0001911.0002	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☑ Other CERCLA

SITE LOCATION

☐ GA ☐ IL ☐ IN ☐ MI ☐ MN ☐ NC
☐ OH ☐ SC ☐ WI ☑ OTHER PR

Section D Required Client Information

SAMPLE ID

One Character per box. (A-Z, 0-9 / -)
Samples IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analysis: 9260 VOC + headspace	Residual Chlorine (Y/N)	Filtered (Y/N)	Pace Project Number / Lab I.D
1	TB-20151207	WT	G	—	—	12-07-15	LAB		2				X					X			
2	INF-20151207	WT	G	—	—	12-07-15	0907		3				X					X			
3	EFF-20151207	WT	G	—	—	12-07-15	0922		3				X					X			
4	EFFDUP-20151207	WT	G	—	—	12-07-15	0922		3				X					X			
5	EFFMS-20151207	WT	G	—	—	12-07-15	0922		3				X					X			
6	EFFMSD-20151207	WT	G	—	—	12-07-15	0922		3				X					X			
7																					
8																					
9																					
10																					
11																					
12																					

Additional Comments:

ORIGINAL

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
FERNANDO COLON / ARCADIS	12-07-15	13:23	[signature] / DHL	12-7-15	13:23
Fed Ex	12-9-15	0811	[signature]	12-9-15	0744

SAMPLE CONDITION

Temp in °C	Received on ice	Custody Sealed Cooler	Samples Intact
1.3	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: FERNANDO COLON

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM / DD / YY): 12-07-15

SEE REVERSE SIDE FOR INSTRUCTIONS

ALLQ020rev.3,31Mar05

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upc

WO# : 2029587

PM: JLS **Due Date: 12/23/15**

CLIENT: 20-CHEV-ARC ARCADIS

Courier: ☐ Pace Courier ☐ Hired Courier ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☑ Other

Custody Seal on Cooler/Box Present: [see COC] Custody Seals intact: ☑Yes ☐No

Therometer Used: ☐ Therm Fisher IR 5 ☐ Therm Fisher IR 6 ☑ Therm Fisher IR 7

Type of Ice: (Wet) Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 12-7-15 AL

Temp must be measured from Temperature blank when present

				Comments:
Temperature Blank Present"?	☐Yes	☑No	☐N/A	1
Chain of Custody Present:	☑Yes	☐No	☐N/A	2
Chain of Custody Complete:	☑Yes	☐No	☐N/A	3
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	4
Sampler Name & Signature on COC:	☑Yes	☐No	☐N/A	5
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	6
Sufficient Volume:	☑Yes	☐No	☐N/A	7
Correct Containers Used:	☑Yes	☐No	☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☑N/A	9
Sample Labels match COC:	☑Yes	☐No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes	☐No	☐N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	☐Yes	☐No	☑N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes	☐No	☐N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO_3 _____ H_2SO_4 _____
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A	14
Trip Blank Present:	☑Yes	☐No		15

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Attachment 3
Sampling and Monitoring Field Form

ARCADIS Design & Consultancy for natural and built assets

Groundwater Extraction and Treatment System (GWETS) Sampling and Monitoring Field Form
Fibers Public Supply Wells Superfund Site
Guayama, Puerto Rico

Collection Date	Sample ID	Collection Time	Sampler's Initials
12-07-2015	TB-2015-12-07	LAB	F.C.
12-07-15	INF-2015-12-07	0907	F.C
12-07-15	EFF-2015-12-07	0922	FC
12-07-15	EFFDUP-2015-12-07	0922	FC
12-07-15	EFFMS-2015-12-07	0922	F.C
12-07-15	EFFMSD-2015-12-07	0922	FC

GWETS Operational Data at Sample Collection

Extraction Wells

RW-2	113.9	gpm
RW-4	130.3	gpm
RW-5	49.5	gpm

Compound Treatment System

Influent Flow Rate (FIT-101)	313.0	gpm
Effluent Flow Rate (FIT-301)	298.2	gpm
Blower (FIT-201A)	2155	cfm
Influent Flow Pressure (PIT-101)	3.0	psi
Effluent Flow Pressure (PIT-301)	8.4	psi
pH (pHIT-201A)	8.1	

Notes:
gpm = gallons per minute
cfm = cubic feet per minute
psi = pounds per square inch